PRESENTATION OF A COMPREHENSIVE COMMUNITY SUICIDE PREVENTIONPROGRAM: IMPROVEMENTS FOR YOUNG ADULT MALES AGES 18–34 YEARS OLD

by

Jamie Lynn Bagley

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DEDICATION

I would like to dedicate this project to my wonderful mother, Terri. Without your unending love, support, encouragement, and patience along the way, but especially throughout the last four years, I could have never accomplished all that I have. To all my other family and friends that have supported and encouraged me throughout this journey. Thank you.

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TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUED

LIST OF FIGURES

ABSTRACT

Suicide continues to be a worldwide phenomenon causing more than 44,000 deaths nationally (American Foundation for Suicide Prevention [AFSP], 2015) and 800,000 deaths globally (World Health Organization [WHO], 2017). Although any population can be affected by suicide, certain populations are at a higher risk of being impacted. Completed suicides by the male population have been rapidly accelerating both nationally and within the state of Montana. Over the last 40 years Montana has been in the top five states for the highest suicide rates in the nation (Montana Department of Public Health and Human Services [MTDPHHS], 2016b), and as of January 2018, Montana ranked first in the nation for highest suicide death rate (Centers for Disease Control and Prevention [CDC], 2018). Male youth suicide is rising and is now the second leading cause of death between males ages 15–34 years old (CDC, 2015). Butte-Silver Bow County, located in Montana, is no exception, and is one of four counties in Montana with the highest suicide rates of 20.6/100,000 compared to Montana's suicide rate of 16.4/100,000 (MTDPHHS, 2016a). Twelve percent of males in Butte-Silver Bow County report "fair" or "poor" mental health (Sisters of Charity of Leavenworth [SLC], 2015). There is significant need for mental health support services for this age group. The lack of evidenced-based suicide prevention interventions/programs for males, particularly male youth, is alarming. The goal of this proposed community implementation program is to provide Butte-Silver Bow County and future communities with evidence-based interventions to decrease male youth suicides. An exhaustive literature search was conducted, and evidence-based suicide prevention programs were evaluated. As a result, evidenced-based components from Problem Solving Therapy (PST), and The Collaborative Assessment and Management of Suicidality (CAMS) were combined to form one comprehensive suicide prevention intervention program.

CHAPTER ONE – INTRODUCTION

Background

Suicide is the 10th leading cause of death in the United States resulting in over 44,000 deaths annually, with an average of 121 suicides per day (AFSP, 2015). Suicide is the second leading cause of death among persons aged 15–34 years old in the United States (CDC, 2015). In the United States, adult males have consistently demonstrated the highest suicide rates. Males take their own lives at nearly four times the rate of females and represent 77.9% of all suicides (CDC, 2015). Younger groups have had consistently lower suicide rates than middle-aged and older adults; however, these suicide rates have been rising. In 2015, adolescents and young adults aged 15 to 24 had a suicide rate of 12.5, and adults 35-44 had a suicide rate of 17.1 (AFSP, 2015).

For the purpose of this project, suicide is defined as "death caused by self-directed injurious behavior with an intent to die as result of the behavior" (CDC, 2016, para. 1). Suicide attempt is defined as "a non-fatal, self-directed, potentially injurious behavior with an intent to die as a result of the behavior; might not result in injury" (CDC, 2016, para. 2). Suicidal ideation is defined as "thinking about, considering, or planning suicide" (CDC, 2016, para. 3).

According to the National Survey on Drug Use and Health (NSDUH), conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), the overall percentage of adults age 18 and older in the United States that had thoughts about suicide in 2015 was 4.0%. The percentage of adults having serious thoughts of suicide

was highest among adults aged 18–25 (8.3%), followed by adults aged 26–49 (4.1%). In adult males 18 and older in the United States, 3.9% had suicidal thoughts over the past year (National Institute of Mental Health [NIMH], n.d.). In agreement with national trends, Montana statistics indicate an increase in trends in young adult suicide thoughts and rates.

Suicide continues to be an epidemic in the state of Montana. During the years 2005–2014, the rate of suicide in Montana was 22.33 per 100,000 people, which was nearly double the national rate during that period, which was 12.22 per 100,000 people. Between 2005 and 2014, a total of 2,199 Montana residents have died by suicide for an average of 220 people per year. Montana had the highest rate of suicide in the United States in all age groups in the United States (DPHHS, 2016b). Between the years 2014–2016, over three-quarters of suicides in Montana were completed by males, and a quarter of these males were between the ages of fifteen to thirty-five years old, which makes this age demographic one of the highest risks of completed suicides (DPHHS, 2016b).

Butte-Silver Bow County follows the state trends for male suicide. According to the MTDPHHS (2011), the "prevalence of mental illness, combined with a high rate of poverty, particularly among senior citizens, and a cultural acceptance of substance abuse create a higher than normal risk for suicide" within Butte-Silver Bow County. According to the MTDPHHS *2011 Community Needs Assessment*, the number of people diagnosed in Butte-Silver Bow County with a mental illness was increasing. The 2000 Decennial Census demonstrated that over a tenth of disabled people in the county had a mental illness, which translated into almost 2% of the overall population. The community need

for services continues to increase at alarming rates. The number of people served by the Western Montana Mental Health Center increased over 150% between 1997 and 2006 (Montana Department of Public Health and Human Services [MTDPHHS], 2011, p. 11).

The greatest deficit in Butte-Silver Bow County is psychiatric services. In 2010 when the data was gathered for the Butte-Silver Bow Community Needs Assessment Report, there was only one practicing psychiatrist in the county for an estimated 1,500 adults (MTDPHHS, 2011). As of August 2017, there is only one adult psychiatrist, and three adult psychiatric mental health nurse practitioners practicing in Butte-Silver Bow County who are taking new adult patients. Two additional psychiatric mental health nurse practitioners affiliated with Western Montana Mental Health Center (WMMHC) see clients at WMMHC but are not accepting new clients.

Montana has the highest suicide rate in the nation, however, Butte-Silver Bow County is one of four counties to have a suicide rate statistically higher than the Montana state average. Butte-Silver Bow County has a suicide rate of 20.6/100,000 compared to Montana's suicide rate of 16.4/100,000, which makes it one of the highest counties for suicide deaths in the state of Montana (MTDPHHS, 2016a).

Project Question

What is the best comprehensive evidence-based suicide prevention program for young males ages 18–34 in Butte-Silver Bow County?

Intended Improvement

An assessment of suicide prevention programs and services in Butte-Silver Bow County was conducted. In January 2014, Butte-Silver Bow County's Suicide Prevention Coalition, later renamed the Community Action Team (CAT), was established by the Butte-Silver Bow Public Health Department (BSBPHD) after the community experienced an epidemic of adolescent suicides. The initiation of CAT focused on adolescent suicide prevention beginning with gatekeeper training for school personnel and the community, as well as the implementation of evidenced-based school suicide prevention programs. Since the implementation of these prevention programs, Butte-Silver Bow County has not had an adolescent suicide death since October 5, 2015. The CAT has now begun to expand their focus on the adult population in response to the rampant trend of adult suicide completion, particularly male suicides (Birkenbuel, 2016).

Additionally, the health department CAT program has a slightly different approach aimed to reach the adult population. Currently, suicide prevention interventions that BSBPHD utilizes include tier one and tier two approaches of the Behavioral Tiered Interventions Model: having two staff trained in mental health first aide, 14 members of the health department and CAT who are trained in adverse childhood experiences (ACEs), inviting mental health experts into the community and schools to discuss trauma;, providing community gun safety education and the distribution of hundreds of gun locks, and increasing media efforts to raise awareness of mental health issues and reduce stigma such as the Stamp Out the Stigma march and advertisement on radio campaigns.

Similarly, adult suicide prevention efforts by the CAT include providing education and training to teachers, administrators, counselors, health care workers, law enforcement personnel and business leaders regarding recognizing the signs of suicide by expert leaders at the in suicide prevention; increasing the community's awareness of mental health disorders and decreasing the stigma associated with seeking help (Birkenbuel, 2016).

Despite continuous suicide prevention efforts in Butte-Silver Bow County, between January 1, 2017–November 17, 2018, nineteen males in Butte-Silver Bow County completed suicide. The ages of these males ranged from 10 years old to 87 years old, with the median age being 41.7 years old. Over one-fourth of the suicides were completed by adult males 18–34 years old (K. Rosston, personal communication, November 16, 2018). Despite the fact that suicide in males from their early 20's through their 50's, account for the most suicides, and the majority of years of life lost due to suicide there are no targeted suicide prevention programs/interventions for this population (HHS, 2012, p. 127). Compared to completed female suicides, younger males complete suicide at a rate four times higher (CDC, 2015), however, there has been little research on this group, compared to adolescents and older adults (HHS, 2012, p. 127).

Prior studies suggest factors that may increase the risk for suicidal behaviors in this group may include the development of mental illness, substance use disorders (alcohol abuse), and access to lethal means (HHS, 2012, p. 127). According to HHS (2012),

> These factors are likely to be exacerbated by other risk-related characteristics that occur more frequently among males, such as the

> underreporting of mental health problems, a reluctance to seek help, engagement in interpersonal violence, distress from economic hardship (unemployment), and dissolution of intimate relationships (p. 127-128).

Young males are less likely to seek support and intervention services when experiencing mental health distress. Prevention efforts are challenging for males. Males have been shown to show fewer signs of depression, underreport suicidal ideation, abstain from seeking or accepting help from others for mental illness, and often conceal suicidal plans or preparation.

Project Aims

There are several aims of the current DNP project, the first is to identify current suicide prevention resources and needs within the community based on current practice: provide BSBPHD, CAT, and mental health LAC staff. Additionally, this project aimed to focus on education and targeted suicide prevention interventions that were evidence-based for the young adult male demographic. These interventions were to be presented to community stakeholders. Program development was to be evaluated for content/effectiveness through a pre- and post-survey. Finally, the majority of attendees at the proposal sessions will leave with increased knowledge of suicide in our community and be willing to consider the proposed program interventions incorporated into their agency.

Theoretical Framework

The conceptual framework chosen for this project is Ida Jean Orlando's (Pelletier's) Nursing Process Theory. Orlando's Nursing Process Theory focuses on the active and equal participation of the patient, the nurse's responsibility to discover and meet the patient's needs by recognizing acute distress or a cry for help from the patient and emphasizing the importance of prompt assessment of the patient's behavior (Master, 2015, p. 193).

According to Masters (2015), Orlando's Nursing Process Theory focuses on "producing improvement in the patient's behavior and relief of the patient's distress is seen as positive changes in the patient's observable behavior" (p. 193). Orlando's Nursing Process Theory is unique as the theory recognizes that a patient may experience helplessness as a result of unmet needs; however, a positive relationship between the patient and nurse can assist in alleviating this unmet need. Therefore, immediacy is stressed in this theory. As the patient is able to meet their own needs, stress is reduced, and they do not require as much care.

The components of Orlando's Nursing Process Theory that were chosen to guide the decision making of this project included the five interrelated concepts including the organizing principle or professional nursing function, the problematic situation or the patient's presenting behavior, the internal response or immediate reaction, reflective inquiry or deliberative nursing process; and resolution or improvement (Masters, 2015, p. 196). See Appendix B.

The organizing principle of the Nursing Process Theory focuses on finding out what a patient's immediate needs for help are, providing direct assistance, and meeting those patient's direct needs for help (Current Nursing, 2012). The presenting behavior of the patient is where the nurse discovers the patient's problematic situation and their immediate need for help. The nurse must be cognizant that presenting behavior of the patient does not equate the patient's true feelings always. The nurse must exercise caution and not allow her misconceptions to define the patient's feelings (Petiprin, 2016). The internal response or immediate reaction is caused by the patient's presenting behavior, which "triggers an automatic and immediate reaction in the nurse based on the nurse's perceptions, past experiences, and knowledge" (Masters, 2015, p. 196). The nurse cannot assume that any of his or her perceptions are correct until they are validated through exploration with the patient (Masters, 2015, p. 197). Deliberative nursing process views the nurse-patient situation as a whole. Alligood (2013) states that "the nurse's behavior affects the patient, and the nurse is affected by the patient's behavior" (p. 289). Nurses must focus on the patient rather than assumptions. According to Alligood (2013), without the patient's participation in care, interventions are not helpful, and patients will feel uninvolved in their care. Each nurse-patient experience involves a process of inquiry to prevent the use of automatic responses and arbitrary actions, and when this occurs the patient's immediate behavior improves" (p. 290). Finally, the resolution or improvement concept of Orlando's framework focuses on evaluating whether the nurse's actions "successfully helped the patient communicate his or her need for health and whether the need was met. If the patient's behavior has not changed then the function of nursing has

not been met, and the nurse continues the process, refining the process, until improvement occurs" (Master, 2015, p. 198).

Orlando's Nursing Process Theory emphasizes the need for the nurse to provide immediate assistance to address the patient's unmet needs. Suicidal ideation and behavior are crisis situations. The Nursing Process Theory will guide the project of young adult male suicide program prevention intervention improvements because the theory highlights the importance of a thorough assessment of the patient's immediate needs, an equal relationship between the nurse and patient, treating the patient as a whole, and successfully assisting the patient to return to their optimal state of well-being.

CHAPTER TWO –REVIEW OF THE LITERATURE

Review of Literature

When developing, implementing, and monitoring suicide prevention programs, it is critical to utilize suicide prevention strategies that have been shown to be effective (HHS, 2012, p. 41). Several suicide prevention evidenced-based programs and practices targeting young adults have the potential for successful implementation in Butte-Silver Bow County. After a thorough literature review, the evidenced-based programs and practices that would be the most applicable include problem-solving therapy (PST); and the Collaborative Assessment and Management of Suicidality (CAMS).

The Cost of Suicide

In 2013, the average cost of one suicide was $1,329,553, and the national cost of suicides and suicide attempts in the United States was $58.4 billion (Shepard, Gurewich, Lwin, Reed, & Silverman, 2015, pp. 355-356). Within the state of Montana, one suicide costs a total of $253,380,000, which represents combined lifetime medical and work loss cost (MTDPHHS, 2016a, p. 47). The number of reported suicides in 2013 was 32,055 males, 9,094 females, and 41,149 total. The economic cost of male suicides and suicidal attempts ($48.1 billion) was substantially higher than that in females ($10.4 billion), representing 82.2% and 17.8% of the total, respectively (Shepard et al., 2015, pp. 355-356).

Currently, 10%–15% of patients who engage in medically serious suicide attempts will die by suicide within 10 years. Approximately 14% of individuals who make medically serious suicide attempts will be readmitted to the hospital for a suicide attempt within one year, and their cumulative risk of readmission for a suicide attempt after an index suicide attempt is 28.1% over 10 years (Shepard et al., 2015, p. 359). Therefore, individuals who make suicide attempts are readmitted often, while the chances of dying of suicide are much lower. For the number of those who die by suicide, there are many more in need of treatment for suicide attempts and mental health support.

Shepard et al. (2015) estimated a highly favorable benefit-cost ratio of 6 to 1 for investments in additional medical, counseling, and linkage services for such patients, and every $1.00 spent on psychotherapeutic interventions/interventions that strengthened linkages among different care providers would save $2.50 in the cost of suicides (Shepard et al., 2015, p. 352). There is a 50% cost savings when treating patients proactively for suicidal tendencies rather than covering the costs of a completed suicide.

Problem-Solving Therapy (PST)

PST, as described by the American Psychological Association, assists individuals with “adopting a realistically optimistic view of coping, understand the role of emotions more effectively, and creatively develop an action plan geared to reduce psychological distress and enhance well-being. Interventions include psychoeducation, interactive problem-solving exercises, and motivational homework assignments” (2009). Young adulthood is a period of multiple life changes biologically, psychologically, and socially.

These challenges require effective coping strategies in order to gain resiliency and PST is an important life skill to acquire during this life transition (Eskin, 2008, p. 229-230).

The results of PST suicide prevention interventions in youth and the adult populations have demonstrated conflicting results among studies comparing and contrasting PST with other interventions. In a study conducted by Eskin et al. (2008) high school and college youth who were offered weekly sessions for 30–60 minutes, lasting for six weeks focusing on defining problems, goal setting, generating alternative solutions, decision making, implementing solutions, and assessment verification, experienced a 77.8% full or partial recovery compared to 15.8% of the participants in the controlled waiting list condition according to their Beck Depression Inventory score. The improvements were maintained at 12-months follow-up (p. 240).

Similarly, psychosocial interventions following self-harm in adults 18 years old and older, have demonstrated the efficacy of PST compared to treatment as usual (TAU) interventions. In a literature review conducted by Hawton et al. (2016) cognitive behavioral therapy (CBT)-based psychotherapy, which included PST, was associated with significant reductions in scores for both depression and hopelessness at the six- and 12-month assessments, and for suicidal ideation and problem-solving at six months (p. 9-10).

Additionally, PST, CBT, and TAU interventions have been compared in individuals who attempted suicide post-emergency department release. In a study conducted by Stewart, Quinn, Plever, and Emmerson (2009), PST group members demonstrated improvement on all variables (problem-solving ability, hopelessness,

suicidal ideation, and satisfaction post-treatment). Significant differences were also noted between PST and TAU groups on the Beck Scale for Suicidal Ideation and the Client Satisfaction Questionnaire. Satisfaction and suicidal ideation improved following completion of PST vs. TAU results, however, no significant differences were found for repetition of suicide attempts when the PST group was compared to the TAU group. Overall, CBT and PST showed significant improvements over time within the majority of measurable variables compared to TAU (pp. 543-545).

Conversely, Parker et al. (2016) studied PST psychological and psychiatric interventions that were provided to individuals' ages 12–25 years old. At two youth mental health centers, physical activity, lifestyle psychoeducation, psychological PST, or supportive counseling were offered to individuals. Those receiving PST compared to nondirective supportive counseling did not experience significantly greater reductions in depression or anxiety (p. 203). Physical activity interventions were superior in reducing depression symptoms compared to a lifestyle psychoeducation intervention (Parker et al., 2016, p. 206).

The literature appeared to support the use of PST as an effective treatment strategy to reduce suicidal thought and attempts. While there does appear to be some conflicting evidence on how effective this methodology is, the evidence is clearly present to demonstrate its effectiveness.

Collaborative Assessment and Management of Suicidality (CAMS)

There was a second common suicide prevention program that was widely published in the literature. The CAMS interventions focus on collaborative structured "approaches to risk assessment, treatment planning, alliance-building, and risk reduction with suicidal patients" (Ellis, Daza, & Allen, 2012, p. 149). The CAMS program allows the patient to "identify the drivers or causes that lead to suicidal ideation and the subsequent reduction in suicidal ideation and behavior as coping strategy" (Comtois et al., 2011, p. 965). In CAMS interventions, the Suicide Status Form (SSF) guides assessment, treatment planning, ongoing tracking of risk, and outcome/disposition of care (Comtois et al., 2011, p. 965).

CAMS interventions have demonstrated a high degree of efficacy in the reduction of suicidal ideation and patient satisfaction. Comtois et al. (2011) compared CAMS patients vs. enhanced care as usual (E-CAU) patients who were both evaluated the next day. The CAMS intervention group displayed higher satisfaction, better retention rates, and a decrease in their scale for suicidal ideation score from 61% at two months to an 89% reduction at 12 months. Additionally, individuals in the E-CAU group demonstrated a steady reduction in suicidal ideation, though not quite as rapidly at CAMS group, and there appeared to be some rebound post-treatment symptoms. Finally, at the two and four-month assessment, there were more suicidality symptoms in than in the E-CAU group than in the CAMS group, however, this was not significant. At the 12-month assessment patients were notably, and significantly worse in the E-CAU group than CAMS patients (Comtois et al., 2011, pp. 966-969). Therefore, CAMS interventions for

next day appointments demonstrate more positive results in the reduction of suicidal ideation than E-CAU.

In a similar study, patient perspectives have also demonstrated the efficacy of CAM-based interventions. A study conducted by Schembari, Jobes, and Horgan (2016) explored two outcome CAM questions: (1) Were there any aspects of your treatment that were particularly helpful to you? If so, please describe these. Be as specific as possible; and (2) What have you learned from your clinical care that could help you if you became suicidal in the future? Results indicated an overwhelming amount of question one responders (96%) found aspects of their treatment to be helpful, particularly therapy at 30.6%. A significant amount of question two responders (88.5%) indicated techniques that would be useful if they had suicidal ideation in the future. The most frequently identified themes were introspective coping methods and actively seeking help, each making up 23.1% of the total responses. The third most frequently endorsed theme was therapeutic tactics at 17.3%, understanding help is available at 15.4%, crisis planning at 9.6%, and the remaining responses were categorized as ambiguous at 11.5% (Schembari et al., 2016, pp. 220-221). As a result of this study, CAMS interventions have not only been demonstrated to be quantitatively effective but also qualitatively effective.

CHAPTER THREE – METHODS

Project Design

According to the Suicide Prevention Resource Center (SPRC, 2018), practicing evidence-based prevention is defined as "using the best available research and data throughout the process of planning and implementing your suicide prevention efforts. Evidence-based prevention includes engaging in evidence-based practice (sometimes called evidence-based public health), and selecting or developing evidence-based programs."

The SPRC (2018) recommends that suicide preventions programs should have evidence, which related to the desired outcomes and priority population in the strategic plan. There is no single review or suicide prevention program, which will fit a single population, so multiple sources must be consulted. When adapting a suicide prevention program or developing a new one, there are a few key recommendations to following including thoroughly understanding the local problems an assets of the community and population, knowing the population including the risk and protective factors for suicide, identifying that the program guided by research-based theories (behavior of change theories), documenting a theory of change to demonstrate how the program will achieve the intended results, and using research on related programs and their effectiveness. Suicide prevention outcomes are determined by reductions in suicidal thoughts and behaviors or changes in suicide-related risk and protective factors. Short-term outcomes are determined by post-training increases in knowledge, which suggest that a program

might be effective, however, this is not conclusive of success. These were the guidelines utilized to create the comprehensive program designed in this project.

The program designed in this project was titled; *The Comprehensive Suicide Prevention Program for Young Adult Males 18-34 Years Old*. This program was presented to three community organizations, which are focused on promoting mental health awareness in our community. These three community programs all aimed to reduce suicide rates in Butte-Silver Bow County. The aims of the presentation were plentiful; to identify current suicide prevention resources and needs within the community based on current practice; to provide BSBPHD, CAT, and LAC staff with education and targeted suicide prevention interventions that are evidence-based for the young adult male demographic; to have the above three organizations evaluate the proposed program through a pre- and post-survey; to measure if attendees left with an increased knowledge of suicide in our community, and to determine if the three organizations who received the program presentation would be willing to consider incorporating the proposed program interventions into their agency.

The design of this project focused on a mixed methods model. Mixed methods research represents more of an approach to examining a research problem than a methodology. Mixed method is characterized by a focus on research problems that require an examination of real-life contextual understandings, multi-level perspectives, and cultural influences. Mixed methods research focuses on quantitative research assessing the magnitude and frequency of constructs and qualitative research exploring the meaning and understanding of the constructs. The objective of drawing on the

strengths of quantitative and qualitative data formulate a holistic interpretive framework for generating possible solutions or new understandings of the problem (University of Southern California [USC], 2018).

The quantitative information was obtained in the pre-survey by a series of true and false questions, multiple choice questions, and demographic questions to assist in determining the knowledge level of the participants prior to the presentation of the program content. The post-survey focused on the knowledge level of participants after the presentation and the likelihood of the participants integrating the proposed program into their organizations. Quantitative information post-survey was obtained by true and false questions and multiple choice questions. Qualitative information of the project was obtained through the post-survey via open-ended questions. The open-ended questions were in the context of sustainability of the program, successful outcomes of the program, and the likelihood of integrating the program in the future. The quantitative expectation was that the knowledge regarding evidenced-based suicide prevention interventions for young adult males ages 18–34 years old, should increase after the program presentation. This project was presented in person during a specific time scheduled for the meeting. The total allocated time for the educational program was one hour. The average amount of time it took to complete the pre- and post-survey was seven minutes. Coordination and scheduling of the presentations were greatly attributed to Karen Sullivan, Chief Health Officer Butte-Silver Bow County. The program presentations were conducted in three separate intervals, one to each community organization, over a one month period.

Ethical Considerations

The Institutional Review Board at Montana State University approved this project in December 2017. The project was considered to be exempt from a full expedited Institutional Review Board review because it did not identify the participants in any way, and the project demonstrated essentially no harm to the participants. The project sought to study, evaluate, or otherwise examine a public benefit or service program and initiate possible changes in or alternatives to previously established programs or procedures within the community (MSU, n.d.).

Sample and Setting

The sample and setting took place in three distinct organizations. First, the BSBPHD was the main facilitator in the improvements of the suicide prevention intervention program. The Public Health Department's jurisdiction is Butte-Silver Bow, which is considered nationally to be a small jurisdiction, with fewer than 50,000 people being served (Sullivan, 2017). The Public Health Department provides an extensive amount of services to the community and employs a chief health officer, division leaders, environmental health staff, advanced practice nurses, registered nurses, a licensed practical nurse, health educators, preparedness staff, WIC staff, and office support staff. As of March 2017, the Silver Bow County Public Health Department employed 24.9 full-time equivalent employees (Sullivan, 2017).

The BSBPH is an integral member in the development of the Community Health Assessment and the Community Health Improvement Plan, which are generated every three years. The department's focus as described by Sullivan (2017) is;

> Assuring access to healthcare services, by assessing gaps in access; focusing on strategies to target healthcare needs of underserved populations; evaluating the community's efforts to meet the healthcare needs of underserved populations; directly providing healthcare services; and assuring access to behavioral healthcare in the community.

This organization identifies need within the community and works to fill the healthcare voids. In the 2014 Community Needs Assessment, mental illness and how the community responds and provides services was the main priority (SCL, 2015).

The CAT, formerly named the Butte-Silver Bow Suicide Prevention Coalition, was established in January 2014 after the community experienced an epidemic of adolescent suicides. The initiation of CAT focused on adolescent suicide prevention interventions beginning with gatekeeper training for school personnel and the community, as well as the implementation of evidenced-based school suicide prevention programs. The child/adolescent interventions provided by the CAT are based upon the Behavioral Tiered Intervention Support Model. The Behavioral Tiered Intervention Support Model is based upon the multi-tiered system of support, and the positive behavioral interventions and supports model, both of which are often utilized in academic settings to address behavior problems by offering evidenced-based support interventions (PBIS, 2018). The Behavioral Tiered Interventions are focused on three tiers of evidenced-based interventions ranging from interventions placed in the universal, targeted, and intense ranges (PBIS, 2018).

Since the initiation of the CAT there have been a multitude of improvements within the community:

- 527 adults have been trained in Youth Mental Health First Aid (YMHFA)
- YMHFA trainings have resulted in 475 referrals to mental health services; of the adults trained, 94.9% say that they strongly agree in their ability to now identify youth with behavioral, emotional or mental health needs
- 50 to 75 high school juniors and seniors are annually being trained in YMHFA
- funding has been secured to have two Butte people trained in Adult Mental Health First Aid
- 1,200 students are being trained annually in the Signs of Suicide program
- CAT has become an affiliate of Elevate Montana, with 11 people trained to present on adverse childhood experiences (ACEs)
- an electronic consented referral system, CONNECT Butte, is being rolled out so that referrals between agencies can be smoother
- a multi-tiered system of support has been developed within the school district, with students receiving tier two supports increasing from 1.5% to 21.3%
- a “Let’s Talk” app has been developed for youth
- a six-month radio campaign was conducted to address stigma related to mental illness

- a mental health LAC was formulated, with 12 of its 23 members having the lived experience of mental illness
- a majority of Butte-Silver Bow Law Enforcement Division officers have been trained by WMMHC in crisis intervention

After the high degree of success of suicide prevention in the child/adolescent population within the first three years of the program, the CAT are expanding their focus on adult suicide prevention efforts within the community; and over the past three years, youth suicide attempts have been reduced from 17.4% to 12.6% (The City-County of Butte-Silver Bow, n.d.).

The Butte-Silver Bow Mental Health LAC is a coalition of community members and agency representatives who assess, plan, and strengthen behavioral health services in the community. The LAC was unanimously approved by the Butte-Silver Bow Council of Commissioners on Nov. 4, 2015. The 23-member LAC is comprised of 12 members with the lived experience of mental illness (or a family member of someone with lived experience) and 11 members representing various agencies, including the Butte-Silver Bow Council of Commissioners. The LAC works to identify gaps in mental health services; recommends potential additions to services within the community; analyzes and discusses problems with service providers, advocacy groups, public officials and the general public; facilitates accurate and timely communication between the community and its governing entities; assesses the effectiveness of local mental health services and suggests ways services might be more effective; serves as a catalyst and facilitator in solving local mental health service problems; organizes and coordinates needed services

in the community, and educates the community on mental health issues (The City-County of Butte-Silver Bow, n.db.).

Interventions

The comprehensive community suicide prevention interventions program focusing on young adult males was presented to the BSBPHD's Community Health Division members, the CAT volunteers, and the mental health LAC during the late summer and early fall of 2018. The program was presented to various positions within each organization including the chief health officer; registered nurses (RNs), licensed practical nurses (LPNs), primary care providers, health educators; administrative assistants, the community health division manager, the operations division manager, licensed clinical social workers, community educators within the school district, community mental health leaders, community volunteers, etc. The Chief Health Officer of the BSBPHD, Karen Sullivan, was the main point of contact in facilitating this proposal with all agencies involved.

A PowerPoint presentation was developed in order to present the material to be covered. The topics covered within the presentation included national, state, and local suicide statistics, specifically focusing on the youth male population; risk factors for youth male suicide; evidenced-based suicide prevention interventions targeting young adult males; research supporting these programs; and implementation of program interventions (process, professionals involved, cost, evaluation, and longevity).

Due to the diversity and unique population characteristics of Butte-Silver Bow County, components of the two aforementioned suicide prevention programs were utilized. The suicide prevention program proposed combining psychosocial interventions (PST) and the collaborative semi-structured therapeutic interventions between the patient-provider. These elements were guided by the SSF and CAMS in order to form a single suicide prevention program for adult males between the ages of 18–34 years old.

Previous research suggests that improved continuity of care would likely reduce the number of repeated suicide attempts following a previous nonfatal attempt. Addressing suicide requires a multifactorial approach involving communities, workplaces, schools, and the health sector (Shepard et al., 2015, p. 352).

The proposed program had several components. PST is a form of CBT, and not only focuses on increasing problem-solving skills, but additionally focuses on regulating emotions and changing interpersonal skills, which will ultimately result in positive outcomes (Hawton, 2016, p. 18). PST has demonstrated an overall reduction in depression, hopelessness, and suicidal symptoms as compared to waiting list condition (Eskin et al., 2008, p. 240; Hawton et al., 2016, pp. 9-10; Stewart et al., 2009, pp. 543-545).

Secondly, as a collaborative therapeutic approach, CAMS assesses the individual's suicidal state and generates a problem-focused treatment plan that is centered on a patient-defined suicidal "drivers" (those problems that make suicide compelling to the patient). CAMS interventions are designed to create a strong clinical relationship, thus increasing the patient's determination to live. CAMS use a combination of

assessments, treatment planning, tracking, and an outcome tool known as the Suicide Status Form (SSF). The SSF uses both quantitative and qualitative assessment ratings of five central suicide themes (psychological pain, stress, agitation, hopelessness, and self-hate), which were described by Shneidman, Beck, and Baumeister (Ryberg et al., 2016, p. 2).

The comprehensive community suicide prevention improvement program combined the skills, expertise, and cooperation of multiple disciplines. The main program facilitators were proposed to be nurse case managers and licensed clinical therapists. Nursing case managers focus on a systematic collaborative approach in order to provide and coordinate health care. Nursing case management includes assessment, planning, implementation, evaluation, and interaction. Nurse case managers actively participate with their clients to identify and facilitate options and services for meeting individuals' health needs, with the goal of decreasing fragmentation and duplication of care, and enhancing quality, cost-effective clinical outcomes (White & Hall, 2006, E-99). In addition to case management responsibilities, mental health nurses also perform counseling and medication management (Happell, Hoey, & Gaskin, 2012, p. 136).

The licensed professional counselor (LPC) and licensed mental health counselor (LMHC) offer individually-based counseling and tends to rely on a more collaborative approach than other methods of mental health counseling and often has a more flexible outlook on methodologies than social work or psychology. Due to this, LPCs and LMHCs are often able to make use of more novel approaches and also develop therapies that they find to be effective as long as this falls within the ethics guidelines as well as the

legal standards for the counseling profession in the state in which one practices. It is this flexibility in methods and practice that many find appealing when weighing their options between professional counseling and other occupations in mental health therapy (HumanServicesEDU.org, 2018).

The primary method that is employed by both the LPC and LMHC is working with the client to first establish rapport and understanding of the client's situation and then to develop a series of interventions that involve concrete ways in which problems in the client's life can be resolved usually through refining and changing the client's decision making process. In most cases, LPCs and LMHCs work with the client on a primarily internal and individual level ensuring the client's focus is on what they can do within their life to change things (HumanServicesEDU.org, 2018).

The PST interventions within the program will be administered by nurse case managers and licensed clinical therapists. Nurse case managers would be able to provide recovery education, which is a series of innovative lessons used by nurses to teach groups of patients. The program is based on a recovery model promoting hope, security, support/managing symptoms, empowerment, and relationships, coping, and finding meaning. Recovery education aims to help patients move forward step-by-step on their recovery journey and become healthier and more able to prevent relapse (Knutson, Newberry, & Schaper, 2013, p. 874; Butler, Begley, Parahoo, & Finn, 2014, p. 866). PST will also be administered by licensed clinical therapists (Hawton et al., 2016; Eskin et al., 2008). The licensed clinical therapist would focus on more complex aspects of

assessment, treatment, and evaluation (Ellis et al., 2012; Comtois et al., 2011; Schembari et al., 2016; Ryberg et al., 2016).

Secondly, as a collaborative therapeutic approach, CAMS assesses the individual's suicidal state and generates a problem-focused treatment plan that is centered on a patient-defined suicidal "drivers" (those problems that make suicide compelling to the patient). CAMS interventions are designed to create a strong clinical relationship, thus increasing the patient's determination to live. CAMS interventions use a combination of assessments, treatment planning, tracking, and an outcome tool known as the SSF. The SSF uses both quantitative and qualitative assessment ratings of five central suicide themes (psychological pain, stress, agitation, hopelessness, and self-hate), which were described by Shneidman, Beck, and Baumeister (Ryberg et al., 2016, p. 2). In the proposed program, nursing case management and licensed clinical therapists will collaboratively work together in the assessment, treatment planning, tracking of symptoms, and outcome measures that will guide the patient's treatment within CAMS.

As discussed previously, the cost savings of addressing community mental health needs proactively is significant. The cost of implementing this comprehensive community suicide prevention improvement intervention program is unknown, and data regarding suicide prevention program intervention is limited. The highest costs associated with the implementation of the proposed program is estimated to be the hiring and training of mental health staff. The CAMS training is available online or by purchasing the *Managing Suicide Risk: A Collaborative Approach* (2nd edition), written by CAMS creator David A. Jobes, PhD.

Additionally, sources of funding for the suicide prevention program will mainly consist of grants. The Health Resources and Services Administration provides several grants. A specific grant that is applicable for this program is the *Rural Health Care Services Outreach Programs*. This specific grant focuses on a community-based program aimed towards promoting rural health care services by enhancing health care delivery in rural communities. Outreach projects focus on the improvement of access to services, strategies for adapting to changes in the health care environment, and overall enrichment of the respective community's health. The estimated program funding of this grant is $ 5,000,000 (Grants.gov, 2017).

Similarly, the Rural Health Information Hub (RHIhub) provides a list of grants for each state that specifically focus on improving the health of rural communities. A grant that is specific to the state of Montana is the Montana Mental Health Trust Funding. The trust supports programs, services, and resources for the prevention, treatment, and management of serious mental illness in Montana children and adults, including programs, services, and resources. The estimated funding of this trust is $500,000. Although this grant is now inactive, RHIhub states that many inactive programs are likely to be offered again (2017).

Likewise, the Montana Healthcare Foundation "strives to improve the health and well-being of all Montanans. The Montana Healthcare Foundation supports access to quality and affordable health services, conducting evidence-driven research and analysis, and addressing the upstream influences on health and illness" (2017). One of the Montana Healthcare Foundation's main focus areas this year is behavioral health. The

two grants being offered are Rapid Response Grants between $10,000 and $75,000 for projects implemented within a 12- to 24-month period; and Large Grants, which offer grants above $75,000 and up to $150,000 for projects implemented within a 12- to 24-month period (2017).

Investing in mental health care and implementing the suicide prevention program has the potential to have a substantial impact on suicide rates in Butte-Silver Bow County. The suicide prevention intervention implementation program proposed will require a collaborative effort from multiple disciplines, organizations, and the community in order to be successful. The BSBPHD, CAT, and LAC will be the key stakeholders in the program development. Nurse case managers and licensed clinical therapists will work closely with identified young male patients at risk for suicidal behaviors providing evidenced-based treatment strategies from combined problem-solving (PST) and the collaborative assessment and management of suicidality (CAMS). There is a potential significant cost savings to the community with a comprehensive suicide prevention program. Several grant options are available and presented as part of the holistic presentation of the proposed program.

Instruments

The questions utilized for the pre- and post-surveys were not part of a standardized tool but were formulated based on the project's specific knowledge requirements. Questions consisted of true/false, multiple choice, fill in the blank, and open-ended. The pre-survey consisted of 18 questions including five multiple choice

questions; four fill in the blanks; four true/false questions; and three open-ended questions. The post-survey consisted of 17 questions including four true/false questions, seven multiple choice questions, and six open-ended questions. The post-survey consisted of two Likert scale questions ranging from one (not confident) to five (don't know). The evaluation consisted of three Likert scale questions ranging from one (strongly disagree) to five (strongly agree). The pre- and post-survey can be found in Appendix C.

Data Collection

Data was collected using an online survey disseminated to all agency attendees prior to the program presentation. The pre-survey link was sent to their agency email several days prior to the presentation. This was an 18-question (five multiple choice, four fill in the blank, four true/false, and three open-ended) pre-survey was administered to the attendees prior to the presentation. A 17-question (four multiple true/false, seven multiple choice, and six open-ended) post-survey was administered to the attendees after the presentation. Additionally, the post-survey was administered using an online survey. Likewise, a link to the post-survey was sent to the same participants' emails post presentation. There were no time constraints for when the participants could reply to the pre- and post-survey questions sent to their email. The post-survey consisted of two Likert scale questions ranging from (a) (Not Confident) to (e) (Don't Know), and three midrange options (b) Somewhat Confident, (c) Confident, and (d) Very Confident. The Likert scale questions consisted of questions regarding confidence in referring adult male

patients to the suicide prevention program and confidence or likelihood that this suicide prevention program could be implemented in Butte-Silver Bow County successfully.

Data Analysis

Professional statistical services supported by Montana State University were recruited for the statistical analysis of data. Surveys were anonymous. For the data analysis, each survey was issued an identification number. The Montana State University, Statistical Consulting and Research Services (SCRS) statisticians advised that even though this is considered a "quantitative assessment tool," this project lends itself to a more qualitative approach to data analysis. Therefore, tile plots were constructed with the data. The plots more easily synthesize the results, taking individual profiles of responses into account, rather than simple summary statistics as opposed to individuals within questions that may miss interesting and relevant patterns within and across individuals. Therefore, quantitative data as well as qualitative themes were extrapolated from the statistical information obtained from the pre- and post-surveys. Tile plots were constructed using the *ggplot2* package (Wickham, 2016) in R statistical software (R Core Team, 2018) to examine the profile of responses within individuals for the pre- and post-intervention surveys, respectively.

CHAPTER FOUR – RESULTS

Brief Overview

The purpose of this project was to provide BSBPHD, CAT, and LAC staff with an evidence-based comprehensive suicide prevention program for young adult males between 18–34 yrs. old. The BSBPHD, CAT, and LAC were provided with two educational and targeted suicide prevention interventions (PST and CAMS) as part of the proposed program. These interventions were proposed to organizational staff in order to increase knowledge of suicide in our community, as well as for the consideration of implementing the proposed interventions in the future, and to receive feedback on the proposed program. The presentations were conducted between August 2018 and September 2018.

Summary of Findings

This was a mixed method project. Quantitative and qualitative findings came from the pre- and post-survey data. Demographic information and true-false questions were primarily the quantitative data obtained. Open-ended questions regarding program sustainability, effectiveness, and future implementation of proposed interventions were the qualitative themes identified from the surveys. Unfortunately, results from the presentation to LAC were not included in the project quantitative results. This was due to project design issues identified after the first presentation of the program. More will be mentioned about this in the discussion section.

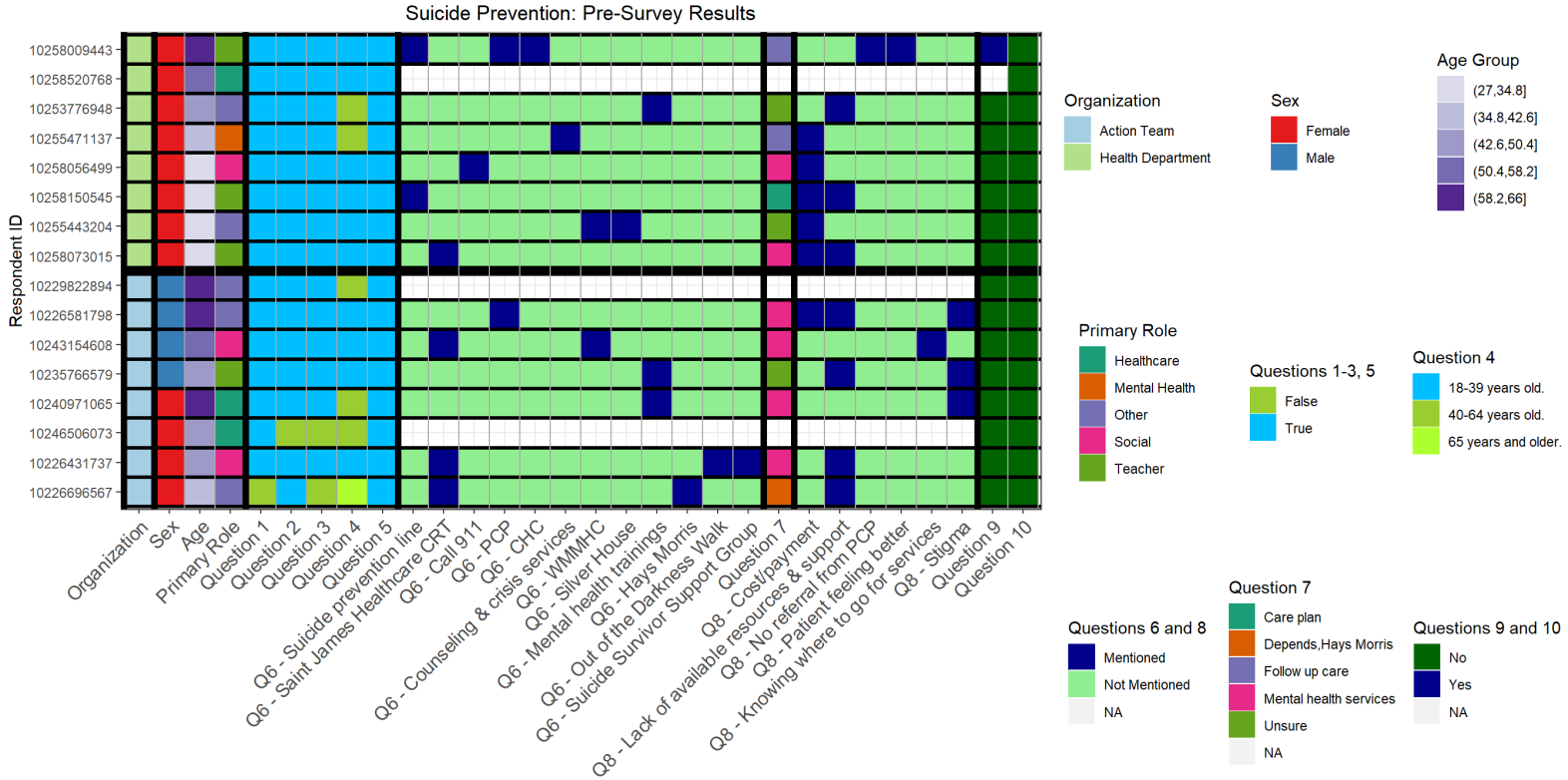
Quantitative Results

There were a total of 16 (n=16) participants who completed the pre-survey. Of those 16 (n=16) participants, 15 (n=15) completed all 11 quantitative questions, and 1 (n=1) left one question blank. The BSBPHD Health Division respondents were composed entirely of females, while the CAT respondents were composed of both males and females, at a ratio of 1:1. The BSBPHD Health Division attendees were slightly younger overall compared to the CAT respondents.

The attendees at the presentations varied significantly. Four identified as teachers, three were healthcare providers, one provided mental health, three were social service providers and five identified as “other.”

The average age for the BSBPHD respondents was 42 years old vs. 52.5 years old for the average age of the CAT members. BSBPHD Health Division respondents overall answered more suicide rate questions correctly compared to the CAT respondents. Only one respondent had heard of PST, and no respondents had heard of CAMS. Questions in the pre-survey about interventions 1, 2, and 3 were open-ended responses. These are not displayed in Figure 1 but will be discussed in the qualitative results section (Figure 2).

Figure 1: Suicide Prevention: Pre-Survey Results



There were a total of five (n=5) participants who completed the post-survey between the two agencies. In the five questions related to suicide rates that were also included in the pre-intervention survey, four respondents got all correct answers, and one respondent got all but question four correct. Interestingly, in the pre-intervention survey, six out of the 16 respondents missed at least one of these questions. Similarly, four out of the five post-intervention respondents answered all presentation content questions correctly. These results indicate improvement regarding Montana-specific suicide information after the program presentation, however, statistical significance could not be determined due to the low participation rates. These results demonstrate that most participants were educated upon the state and national epidemic of suicide prior to the presentation.

Data from the post-survey revealed that the majority of the attendees from the CAT and the health department's community health division understood both PST and CAMS interventions following the presentation. The following questions from the post-survey with their results will be discussed in further details as follows:

6) What is the primary, or main goal of problem-solving therapy (PST)?

The aim of the above question was to determine how well the presenter communicated information regarding PST interventions, and how these interventions could be focused into one program for young adult males within Butte-Silver Bow County. The results of the presentation post-survey indicated that the respondent's knowledge base of PST interventions from the presentation content did improve, as 100% (n=5) of the attendees answered the above question correctly.

7) What is the primary, or main goal of the Collaborative Assessment and Management of Suicidality (CAMS)?

The aim of the above question was to determine how well the presenter communicated information regarding CAMS interventions, and how these interventions could be focused into one program for young adult males within Butte-Silver Bow County. As previously discussed, most attendees were not familiar with CAMS. The results of the presentation post-survey indicated that the respondent's knowledge base of CAMS interventions from the presentation content did improve, as 100% (n=5) of the attendees answered the above question correctly.

8) The Collaborative Assessment and Management of Suicidality (CAMS) intervention uses the suicide status form (SSF) to?

The aim of the above question was to determine how well the presenter communicated information regarding the SSF, which is a tool within the CAMS intervention. As previously indicated most subjects were not familiar with CAMS. The results of the presentation post-survey indicated that the respondent's knowledge base of the SSF from the presentation content showed a positive improvement, as 80% (n=5) four of the five attendees answered the above question correctly.

9) Who would be the main facilitators of the suicide prevention interventions?

The aim of the above question was to determine how well the presenter communicated information regarding the main facilitators of the PST and CAMS interventions within the comprehensive suicide prevention program for young adult

males. All indicated nurse case managers and licensed clinical therapists. The results of the presentation post-survey indicated that the respondent's knowledge of whom the main facilitators of the program would be was clear as 100% (n=5) of attendees answered the above question correctly.

Remaining Post-Survey Question Results

Next, all five respondents answered with at least "Somewhat likely" for their confidence in referring adult male patients to the suicide prevention program and in their confidence that this adult suicide prevention intervention program could be implemented in Butte-Silver Bow County successfully. All five respondents stated that they believe this program would assist in decreasing suicide rates in young males in the community. All but one respondent stated that they would be willing to implement the program interventions proposed at their agency. The one that did not state this made a note that it was not appropriate for their agency. These results indicate the proposed program was perceived by most to be effective and the agencies would consider implementation.

Pre-Survey Qualitative Results

Within the pre-survey, there were three open-ended questions. Since there were only 16 participants, including the CAT and the health department's community health division members, general themes were extracted and synthesized. The following three questions were as follows:

6) Are you aware of any adult suicide prevention intervention services in Silver Bow County? Have you ever referred someone to these services? If yes, please explain those services and processes.

The aim of the above question was to determine the pre-existing suicide prevention interventions within the community, the respondent's knowledge of these interventions, and their comfort referring adults to these interventions. According to the presentation pre-survey, two out of the 16 respondents had referred adults to the suicide prevention hotline, four out of 16 respondents had referred adults to St. James Healthcare Emergency Department Crisis Response Team, two out of 16 respondents had referred patients to their primary care providers (PCP), two out of 16 respondents had referred adults to the WMMHC, and three out of 16 respondents had referred adults to mental health trainings. Based upon the following responses from the CAT and the Health Department's Community Health Division, the majority of respondents had some degree of knowledge of community adult suicide prevention interventions and had referred someone to these services. However, it was evident other than the suicide prevention hotline, there was no one local resource patients were consistently referred to for suicide services.

7) After a patient is assessed and cleared by their primary care provider or the emergency department (ED) after expressing suicidal ideation, what are the next steps to provide care?

The aim of the above question was to determine the respondent's knowledge of mental health interventions post-emergency department. According to the presentation

pre-survey data, six out of the 16 of the respondents stated that the next steps were that patients are referred to mental health services (mental healthcare providers or mental health counseling), two out of 16 respondents stated that follow-up was the next step, and four out of 16 respondents were undetermined (unsure, depends, or I don't know). Based upon the following responses from the CAT and the health department's community health division, only a few respondents believed follow-up care and mental health services were the next steps after patients are evaluated in the emergency department, the data also demonstrated a significant amount of respondents with knowledge deficit regarding the best post-emergency mental health interventions.

8) What are some of the biggest challenges that patients encounter when trying to access mental health services in our community? What do you think would help?

The aim of the above question was to gain the insight of the respondents regarding the most common barriers that patients encounter when trying to access mental health services in the community. According to the presentation pre-survey data, six out of 16 attendees report cost/payment, five out of 16 attendees report lack of available resources and supports, and three out of 16 attendees reported stigma as one of the challenges that patients encounter when trying to access mental health services in our community. Cost and resources were the biggest barrier while stigma was a third but less reported barrier identified by attendees.

Based upon the above pre-survey questions, the majority of the CAT and the health department's community health division members demonstrated some degree of knowledge of community adult suicide prevention interventions and comfort regarding

referring someone to these services. While a few respondents stated that they believed follow-up care and mental health services were the next steps after patients are evaluated in the emergency department, the data also demonstrated a significant amount of respondents had a knowledge deficit regarding the best post-emergency mental health interventions. The respondents also cited cost, lack of services/resources/support, and stigma as being the main barriers to lack of mental health care in the community.

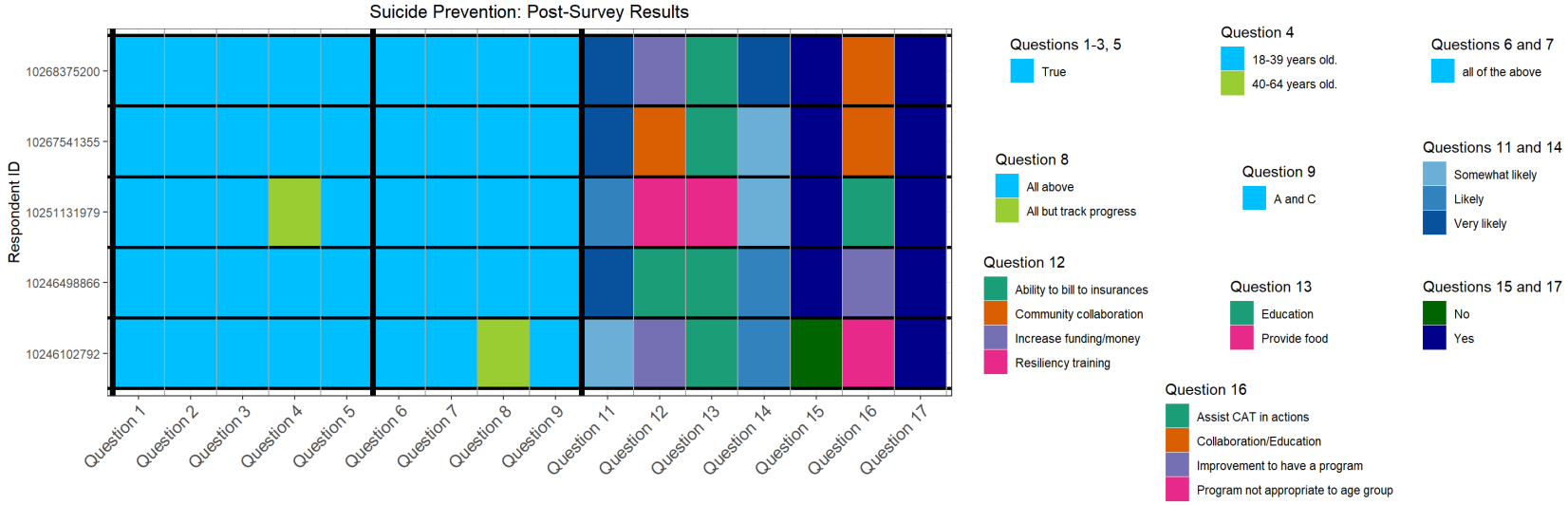
Some observations that were noted with the pre-survey results include the health department respondents were composed entirely of females, while the CAT respondents were composed of both males and females; the health department attendees were slightly younger overall compared to the CAT respondents; health department respondents overall answered more suicide rate questions correctly compared to the CAT respondents; five out of the eight respondents from the health department saw cost and payment as a challenge patients encounter when trying to access mental health services. In contrast, only one respondent from the action team indicated this (question 8); and seven of the 16 respondents indicated that a lack of available resources was a challenge patients encounter when trying to access mental health services (question 8).

Post-Survey Qualitative Results

Within the post-survey, the participant's responded to three open-ended questions when thinking about sustainability: What would need to happen to continue the suicide prevention program after the grant period? What stigma is associated with mental illness is a major barrier in getting help. What are some of your recommendations to get young

adult males into mental health programs in our community? Can you think of some ways that the program's activities or effectiveness in the community could be improved? Themes were identified in the participant responses and were able to be grouped by the DNP student. The groupings were then provided to the MSU statistical team for analysis.

Figure 2: Suicide Prevention Post-Survey Results



7) Thinking about sustainability, what would need to happen to continue the suicide prevention program after the grant period?

As discussed previously, the implementation of this comprehensive community suicide prevention improvement intervention program is unknown, and data regarding suicide prevention program intervention is limited. The highest costs associated with the implementation of the proposed program is estimated to be the hiring and training of mental health staff. It is hypothesized that the majority of funding for this comprehensive community suicide prevention intervention program will consist of grants. The aim of the above question was to determine the future feasibility of this comprehensive community suicide prevention improvement intervention program post-grant period, and how the community could achieve this feasibility. According to the presentation post-survey, two out of five of the respondents recommended that increasing funding/money would need to happen to continue the suicide prevention program after the grant period ended (question 12).

8) What are some of your recommendations to get young adult males into mental health programs in our community?

In a study conducted by Lynch, Long, and Moorhead (2018), seven key themes of barriers to professional help seeking by young men included acceptance from peers, personal challenges, cultural and environmental influences, self-medicating with alcohol, perspectives around seeking professional help, fear of homophobic responses, and traditional masculine ideals (p. 138). Within this same study, Lynch et al. (2018) identified five key themes of solutions to these barriers including tailored mental health

advertising, integrating mental health into formal education, education through semiformal support services, accessible mental health care, and making new meaning (p. 138). The aim of the above question was to determine the best method to engage young adult males in the comprehensive community suicide prevention intervention program. While the approach to be more inclusive is extensive according to Lynch, Long, and Moorhead, education is a good place to start. According to the post-survey, four out of the five respondents recommended education as a way to get young male adults into mental health programs. While the specific education was not clearly outlined by the participants, it could include public health announcements regarding the statistics and resources for suicide prevention in Butte-Silver Bow County. Additional education could include extensively trained community outreach educators attending various civic and community groups. Finally, education could come through the formal curriculum of primary and secondary education in the Butte-Silver Bow school system.

11) Can you think of some ways that the program's activities or effectiveness in the community could be improved?

According to the Suicide Prevention Resource Center (SPRC), a successful suicide prevention strategy needs help and input from different individuals in the community. Involving others in planning and carrying out collaborative efforts, is key to ensuring the work that is done together results in real change for the target group (SPRC, 2018b). Potential collaborative community partners may include individuals and organizations representing the target population, health care and behavioral health providers, key leaders and influencers in the community or system, relevant settings

(schools, community-based organizations, work organizations, business organizations), and individuals with lived experience (SPRC, 2018b). The aim of the above question was to determine how the proposed program's activities and effectiveness in the community could be improved. According to the post-survey, two out of five respondents recommended that collaboration/education would improve the program's activities or effectiveness in the community. This would be consistent with SPRC's recommendations. Collaboration with community and civic programs would have to push boundaries as suicide affects all ages, ethnicities, and socioeconomics. Organizations such as religious orders, nonprofits, for profits, private and public clubs as well as schools, hospitals, and community clinics should be the focus of outreach.

CHAPTER FIVE – DISCUSSION

Limitations

There were several limitations identified in this project: the absence of coding the surveys, a small sample size, one of the three key stakeholders/organizations provided no pre and post-survey information, lack of using a valid and reliable questionnaire to gather data, variation in the amount of time given to complete the surveys and lack of generalizability. First, the project strived to achieve complete anonymity of the participants. However, a limitation of the project was that the pre- and post-surveys were not "coded" in the beginning, and this may have limited measuring the participant's knowledge before and after the program presentation. By not coding the surveys, they could not be matched and compared with pre- and post-survey results on an individual basis. Since there was no way to link the responses for a single individual, it cannot be determined which (if any) of the respondents in the post-intervention survey took the pre-intervention survey.

Secondly, due to the small sample size and overall low response rate, the margin of error may have been increased and the confidence level of the study may have been reduced. Only 16 replies to the pre-survey and five replied to the post-survey. The small sample size of the study may have affected the power of the study and caused an inability to detect an effect from the interventions proposed in the pre- and post-survey. Further compounding this issue, was the fact that only five attendees out of the entire sample size responded to the post-intervention survey. Again, the small sample size of post-survey

respondents increases the margin of error and Type II error in the study and the validity of the study.

Another limitation identified was the format of the surveys themselves. In the beginning of presenting the project, the surveys were paper. This proved to be ineffective as no agency members submitted their pre-survey nor their post-survey. After conversation with the agency and the project chair, it was concluded convenience and accessibility might be a barrier to completing the survey. Feedback from the participants indicated that due to time constraints and the paper format of the survey, they would have preferred to have more time to take the tests and more thoroughly complete the evaluation. Therefore, project survey implementation was modified for the second and third presentation. The surveys were provided online, thus improving the response rate.

Similarly, one could surmise a limitation of this project was that the pre- and post-survey were not pre-established, which may reduce the validity, as well as reduce the reliability of the results. When an instrument such as a pre- and post-survey is already established, the reliability and validity have been confirmed by other research studies that have been conducted on that instrument, which can be applied to the targeted study, or population. However, when an instrument has been adapted or is not pre-established, then it has been significantly changed so the reliability and validity evidence will not apply to the proposed study or targeted population (Korb, 2012).

In addition, another limitation of the study had to do with the system of administration, which affected the amount of time the respondents were given to take the pre- and post-surveys. This was especially true with the pre-survey. There were delays in

obtaining email addresses of attendees in order for the link to the surveys to be provided. This caused a variation of time to reply to the pre- and post-surveys between agencies. Additionally, this may have contributed to the low response rate of the pre- and post-survey answers.

Finally, the small sample surveyed may have not been representative of the entire group or population surveyed. A lack of generalizability restricts the ability to make observations and inferences about broader trends and patterns. For example, in the pre-survey, the BSBPHD Health Division respondents were composed entirely of females, while the CAT respondents were composed of both males and females. Due to the fact that the only BSBPHD Health Division respondents who completed the pre-survey were female, a true representation of the male/female distribution in the sampled population did not occur, which reduces the generalizability of the results.

Recommendations for Final Program

Feedback was received regarding the proposed program throughout the presentation process and with the follow-up post-survey from BSBPHD, CAT, and the mental health LAC members. Additionally, recommendations were gathered by Karl Rosston, LCSW Montana Suicide Prevention Coordinator and other DNP committee members. The consensus acknowledged that young adult male suicide was a major concern in the Butte-Silver Bow County, however, there was concern regarding the feasibility of the presented program as there was too much stigma associated with

depression, and it would be difficult to get young adult males to engage in this program. Further program development would seek to overcome this barrier.

The recommendations provided by the CAT were to include veteran suicides, Native American suicides, and Hispanic suicides in Montana as these three populations represent the age demographic and an extensive amount of the suicides in our state. In addition, the BSBPHD's Community Health Division members recommended including systematic and ongoing statistics/data collection on veteran suicides and Native American suicides as these populations represent an extensive amount of the suicides in our state, as well as the age demographic.

Next, the Southwest Montana Community Health Center utilizes PST, but not the CAMS. The general consensus feedback from the BSBPHD and LAC was concern offering the CAMS component due to the limited CAMS providers. A recommended change was The Columbia-Suicide Severity Rating Scale (C-SSRS), PHQ-2, and PHQ-9. These were considered more appropriate scales as they have up-to-date evidence, and better data collection/tracking/evaluation than the Beck Depression Inventory, or the Hamilton Depression Scale (HAM-D).

The CAT recommended the proposed program may be more successful if integrated into primary care settings. They explained a more integrated approach would be beneficial due to the fact that males are more likely to discuss depression with their PCPs. If identified as depressed or suicidal in the PCP setting, interventions proposed, such as nurse case managers, licensed case managers, and potentially social workers, could meet with the individual in person immediately.

In addition, discussion commenced about making the proposed program a free-standing location in the community thus allowing multiple agencies to make referrals of young adult males to the program. These partners include emergency department personnel, licensed clinical social workers, therapists/counselors, crisis centers, and additional mental/behavioral health care providers. Additionally, the pre-survey results from the CAT and Health Division Health Committee respondents revealed collaboration between schools, primary care providers, public health centers, the Young Men's Christian Association (YMCA), the local hospitals, county jails/prisons, pharmacies, parents/families, law enforcement, addiction services; veterans associations; and Native American services (question 10).

Furthermore, young adult males would also be able to pursue the program interventions themselves if interested. The PST and CAMS program interventions would be short term, as the interventions are designed to be intense and provided in the outpatient setting. The program proposed will act as another resource in the community, which will provide mental health services while patients possibly await more complex psychotherapy and psychopharmacology treatment. In agreement, the SBHDP members were concerned that if the program interventions were located at the SBHDP and other primary care locations, that a potential barrier to care would occur due to competition between healthcare locations. It is possible that certain healthcare locations would only refer individuals to their own program despite additional resources and services, and this barrier could contribute to individuals not receiving the high-quality care they require. However, some members believe that given the high amount of mental illness in the

community, having more than one location trained in the PST and CAMS program interventions would be beneficial in reducing one organization from becoming overwhelmed and possibly turning individuals away. Initially, it is my recommendation that the comprehensive suicide prevention program begins as a pilot program and be located within one location, which would be the BSBPHD. The pilot program should last no less than one year in order to determine the effectiveness of the program's interventions.

Finally, BSBPHD proposed the idea of female individual's participating in the proposed PST and CAMS program interventions. Females have a higher suicide attempt rate; this writer hypothesizes that both genders would benefit from the program's interventions. Although at this time the program is focused on young adult males, in the future the program interventions could expand to both genders and a broad range of ages once the pilot program is completed. However, expanding the program to include a broader demographic would be dependent upon the successful results and positive correlation between the proposed comprehensive suicide prevention program interventions and a decrease in young adult male suicides within the county of Butte-Silver Bow.

Implications for Future Clinical Practice

Interrelated neurobiological, genetic, sociocultural, economic, and environmental factors contribute to an increased risk of completed suicide. Although it may be difficult to detect or predict factors that increase an individual's risk of suicide completion, more

knowledgeable healthcare providers will be prepared to intervene and prevent suicides. Providing education and training, evidenced-based practice interventions are the first steps towards reducing the amount of young adult male suicides. The most important components of suicide prevention are: developing a relationship with the patient, fostering a collaborative problem-solving approach that starts with taking seriously all threats and attempts, and by expressing concern and openness to talking about suicide is paramount in conveying concern (Hutton, 2015, p. 50).

The suicide prevention intervention program combines the CAMS screening tool and promotes PST. Healthcare providers may further foster a relationship alliance by developing a rapport with the patient to increase their willingness to talk about suicide, look for warning signs and triggers and discuss them with the patient, and collaborate with other healthcare team members. Additionally, healthcare providers help the patient to develop a safety plan, including how to cope with negative thoughts and anxiety by documenting the assessment of risk with a rationale for interventions and the effectiveness of these interventions. In following these recommendations, healthcare professionals can potentially save lives (Hutton, 2015). The proposed program is yet another resources in Butte-Silver Bow County to help meet the demands on providers to address and decrease suicide.

Conclusion

Suicide is preventable, and individuals should not have to contemplate suicide in order to obtain relief from emotional and mental anguish. Completed suicides also have

negative long-lasting effects on survivors. Many healthcare providers and community members do not possess adequate knowledge or resources for suicide prevention interventions. Developing an evidence-based, suicide prevention intervention program for young adult males 18–34 years old, is critical in decreasing the rate of completed suicides and increasing the safety of young adult males within this demographic. A successfully implemented suicide prevention intervention program will enhance healthcare providers and community member's knowledge of evidenced-based practice interventions and provide a valuable resource which will assist in providing better optimal care to young adult men who are at risk of completing suicide.

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APPENDICES

APPENDIX A

INTERNATIONAL REVIEW BOARD (IRB) APPROVAL

MONTANA
STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165

960 Technology Blvd. Room 127
c/o Microbiology & Immunology
Montana State University
Bozeman, MT 59718
Telephone: 406-994-6783
FAX: 406-994-4303
E-mail: cherylj@montana.edu

Chair: Mark Quinn
406-994-4707
mquinn@montana.edu
Administrator:
Cheryl Johnson
406-994-4706
cherylj@montana.edu

MEMORANDUM

TO: Jamie Bagley

FROM: Mark Quinn
Chair, Institutional Review Board for the Protection of Human Subjects

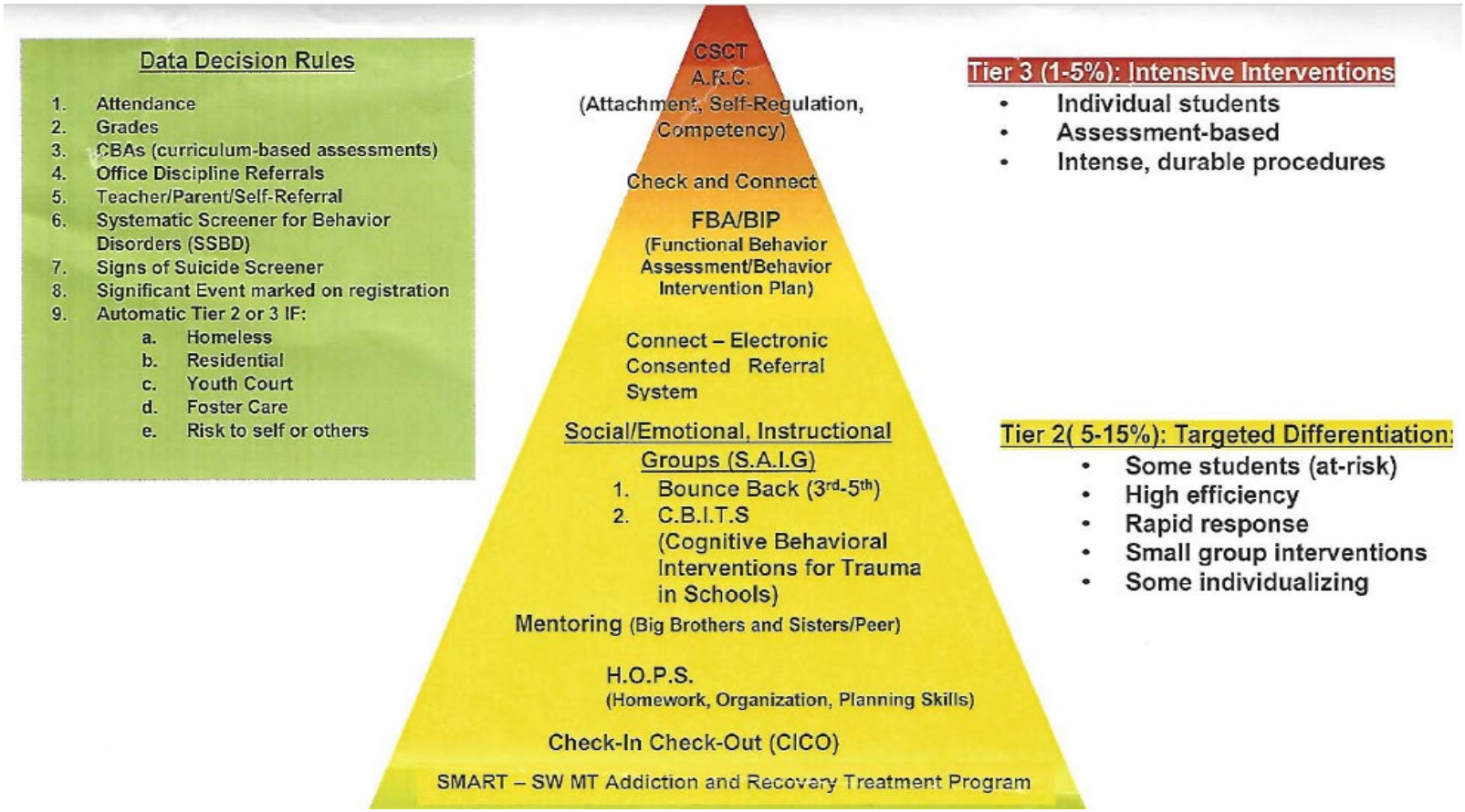
DATE: December 13, 2017

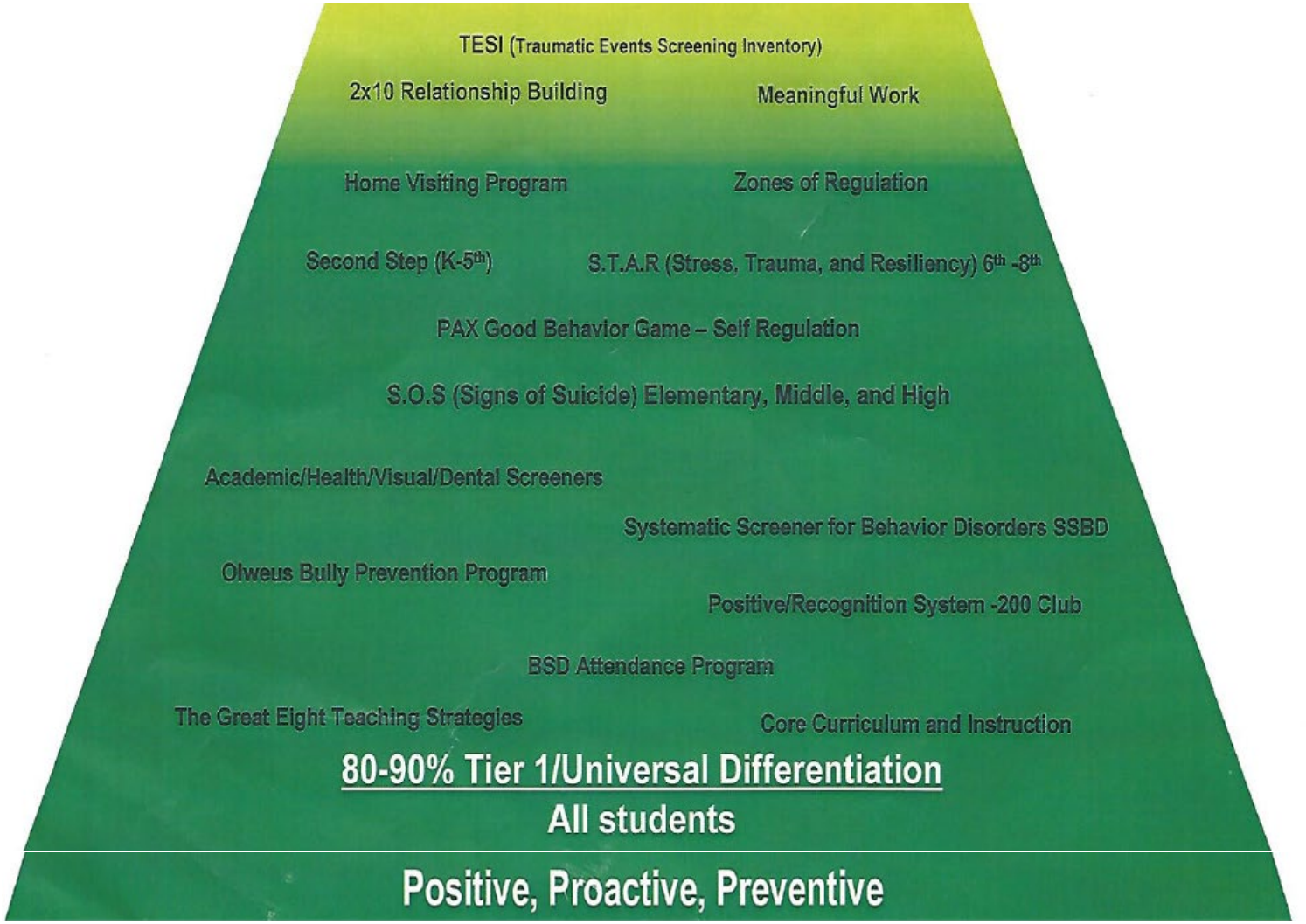
SUBJECT: Community Suicide Prevention Program for Young Adult Males 18-34 Years Old]

This is to acknowledge receipt of your information regarding this educational program for public health department staff in Butte Montana. As I understand, this is an educational program but does not involve research or any intervention. Thus, it does not require IRB review. If anything changes regarding this project, please inform the IRB and we can reconsider whether it might need review.

APPENDIX B

BEHAVIORAL INTERVENTION SUPPORT MODEL


Data Decision Rules
1. Attendance
2. Grades
3. CBAs (curriculum-based assessments)
4. Office Discipline Referrals
5. Teacher/Parent/Self-Referral
6. Systematic Screener for Behavior Disorders (SSBD)
7. Signs of Suicide Screener
8. Significant Event marked on registration
9. Automatic Tier 2 or 3 IF:
a. Homeless
b. Residential
c. Youth Court
d. Foster Care
e. Risk to self or others
CSCT
A.R.C.
(Attachment, Self-Regulation, Competency)
Check and Connect
FBA/BIP
(Functional Behavior Assessment/Behavior Intervention Plan)
Connect – Electronic Consented Referral System
Social/Emotional, Instructional Groups (S.A.I.G)
1. Bounce Back (3rd-5th)
2. C.B.I.T.S (Cognitive Behavioral Interventions for Trauma in Schools)
Mentoring (Big Brothers and Sisters/Peer)
H.O.P.S.
(Homework, Organization, Planning Skills)
Check-In Check-Out (CICO)
SMART – SW MT Addiction and Recovery Treatment Program
Tier 3 (1-5%): Intensive Interventions
• Individual students
• Assessment-based
• Intense, durable procedures
Tier 2(5-15%): Targeted Differentiation:
• Some students (at-risk)
• High efficiency
• Rapid response
• Small group interventions
• Some individualizing


TESI (Traumatic Events Screening Inventory)
2x10 Relationship Building
Meaningful Work
Home Visiting Program
Zones of Regulation
Second Step (K-5th)
S.T.A.R (Stress, Trauma, and Resiliency) 6th -8th
PAX Good Behavior Game – Self Regulation
S.O.S (Signs of Suicide) Elementary, Middle, and High
Academic/Health/Visual/Dental Screeners
Systematic Screener for Behavior Disorders SSBD
Olweus Bully Prevention Program
Positive/Recognition System -200 Club
BSD Attendance Program
The Great Eight Teaching Strategies
Core Curriculum and Instruction
80-90% Tier 1/Universal Differentiation
All students
Positive, Proactive, Preventive

APPENDIX C

PRE- AND POST-SURVEY

Presentation of a Comprehensive Community Suicide Prevention Program Improvements for Young Adult Males Ages 18-34 years old: Pre- and Post-Survey Evaluation

Before you continue with this pre- and post-survey evaluation, please read the following information carefully.

You are being asked to participate in the collection of data for a scholarly nursing project, being conducted through the graduate nursing program at Montana State University. The survey includes a series of open and closed ended questions asking you about your exposure to adult suicide prevention activities, and your awareness and knowledge of these specific suicide prevention interventions. The findings from this survey will be used within a scholarly paper, which will publish in collaboration with the Montana State University College of Nursing. The results of this evaluation will be used to help us design future suicide prevention programs to support your work with decreasing suicide rates in our county. All information from these surveys will be anonymous, no identifiers will be used.

There are no right or wrong responses to this survey. We anticipate that it will take about 10 minutes to complete the evaluation. Your consent to participate in this survey requires that you carefully read and agree to the following:

Privacy: The information that you provide via this survey will be kept private except as otherwise required by law. All data will be analyzed in aggregate so that no information from individuals will ever be reported. You may choose at the end of the survey at any time.

Risks: Completing this survey poses few, if any, risks to you. You may choose to cease input of information at any time or not answer a question, for whatever reason. Your participation is voluntary.

If you consent to participate in this survey here are some additional things you should know:

- You may choose to not answer a question at any time.
- You may contact the facilitator of this survey with any questions or concerns before, during, or after you have completed the survey.
- Again, your name nor identifying information will not be used in any reports about this survey.

Contact information: If you have any concerns about your participation in this survey or have any questions about the evaluation, please contact Jamie Bagley RN, BSN, PMHNP-DNP Student with Montana State University (406) 491-0813. If you have additional questions you can contact the Chair of the Institutional Review Board at Montana State University, Mark Quinn PhD, (406) 994-4707 [mquinn@montana.edu].

Please check the "I CONSENT" box below to begin the pre- and post-survey evaluation.

☐ "I CONSENT"

☐ "I DO NOT CONSENT"

Thank you, I appreciate your participation and interest!
Jamie Bagley, PMHNP Doctor of Nursing Practice Student, Montana State University

Pre-Survey Evaluation

Date: _____
Name of Organization/Meeting You're Attending Today:
_____
Background Information

1) Please select the one primary role with which you most closely identify.

. Teacher/educator
. Healthcare provider (physician/nurse/nurse practitioner/psychiatrist/physician assistant)
. Licensed addiction counselor (LAC)
. Mental health clinician/counselor/ psychologist
. Social worker/ caseworker/care coordinator
. Emergency/crisis care worker
. Correctional officers/or police officer
. Program evaluator
. Administrative assistant/clerical support personnel
. Student
. Other - _____

2) How long have your resided in Silver Bow County?
   Years _____ Months_____

3) How long have you worked in mental health care?
   Years _____ Months_____

4) What is your gender (select one)?

. Female
. Male
. Transgender
. Other (specify)-_____
. Prefer not to answer

5) What is your age (years)? _____

6) What is your race (circle one or more)?
. American Indian or Alaska Native
. Asian
. Black or African American

. Native Hawaiian or Other Pacific Islander
. White/Caucasian
. Hispanic or Latino
. Other (please describe)
. Prefer not to answer
.

United States

1) Suicide is the second leading cause of death among persons aged 15-34 years old in the United States?

   True___or False___

Montana

1) During the years 2005-2014, the rate of suicide in Montana was 22.33 per 100,000 people, which was nearly double the national rate during that period, which was 12.22 per 100,000 people.

   True___or False___

2) Between the years 2014-2016, over 75% of suicides in Montana were completed by males, and 25% of these males were between the ages of 15-35 years old, which makes this age demographic one of the highest risk of completed suicides.

   True___or False___

Silver Bow County

1) In Silver Bow County what age demographic experiences the highest rate of "fair" or "poor" mental health at 23.7%?

   18-39 year olds.
   40 to 64 year old**.**
   65 and older.

2) In the Suicide Prevention 2017 Montana Strategic Suicide Prevention Plan, Silver Bow County was one of four counties found to have a suicide rate statistically higher than the Montana rate during 1995-2014.

   True___or False___

Interventions

1) Are you aware of any adult suicide prevention intervention services in Silver Bow County? Have you ever referred someone to these services? If yes, please explain those services and processes.

2) After a patient is assessed and cleared by their primary care provider or the emergency department (ED) after expressing suicidal ideation, what are the next steps to provide care?

3) What are some of the biggest challenges that patients encounter when trying to access mental health services in our community? What do you think would help?

4) Have you ever heard of Problem-Solving Therapy (PST)?

. Yes
. No

5) Have you ever heard of the Collaborative Assessment and Management of Suicidality (CAMS)?

. Yes
. No

Post-Survey Evaluation

United States

1) Suicide is the second leading cause of death among persons aged 15-34 years old in the United States?

   True ___or False___

Montana

1) During the years 2005-2014, the rate of suicide in Montana was 22.33 per 100,000 people, which was nearly double the national rate during that period, which was 12.22 per 100,000 people.

   True___or False___

2) Between the years 2014-2016, over 75% of suicides in Montana were completed by males, and 25% of these males were between the ages of 15-35 years old, which makes this age demographic one of the highest risk of completed suicides.

   True___or False___

Silver Bow County

1) In Silver Bow County what age demographic experiences the highest rate of "fair" or "poor" mental health at 23.7%?

   18-39 year olds.
   40 to 64 year old**.**
   65 and older.

2) In the Suicide Prevention 2017 Montana Strategic Suicide Prevention Plan, Silver Bow County was one of four counties found to have a suicide rate statistically higher than the Montana rate during 1995-2014.

   True___ or False___

Presentation Content

1) What is the primary, or main goal of problem-solving therapy (PST)?

   a) increasing coping mechanisms
   b) gaining resiliency
   c) understanding emotions
   d) creating an action plan to reduce distress
   e) enhance well-being

f) all of the above
g) none of the above

2) What is the primary, or main goal of the Collaborative Assessment and Management of Suicidality (CAMS)?

a) focuses on risk assessment
b) focuses on treatment planning
c) focuses on alliance-building
d) focuses on risk reduction
e) all of the above
f) none of the above

3) The Collaborative Assessment and Management of Suicidality (CAMS) intervention uses the suicide status form (SSF) to?

a) identify suicide triggers
b) guide assessment
c) guide treatment planning
d) track progress
e) all of the above
f) none of the above

4) Who would be the main facilitators of the suicide prevention interventions?
a) nurse case managers
b) psychiatrists
c) licensed clinical therapists
d) psychiatric mental health nurse practitioners (PMHNPs)
e) licensed social workers
f) A & C

5) What departments, offices, and organizations in the community should be involved in the suicide prevention program?

6) How confident would you be in referring adult male patients to the suicide prevention program?

a) Not Confident
b) Somewhat Confident
c) Confident
d) Very Confident

e) Don't Know

7) Thinking about sustainability, what would need to happen to continue the suicide prevention program after the grant period?
8) Stigma associated with mental illness is a major barrier in getting help. What are some of your recommendations to get young adult males into mental health programs in our community?

9) How confident or likely do you feel that this adult suicide prevention intervention program could be implemented in Silver Bow County successfully? Please feel free to explain.

a) Not Confident
b) Somewhat Confident
c) Confident
d) Very Confident
e) Don't Know

10) In the future, would you be willing to implement program interventions proposed today at your agency?
    a) Yes
    b) No

Please explain;

11) Can you think of some ways that the program's activities or effectiveness in the community could be improved?

12) This program will assist in decreasing the rate of suicide deaths for young adult males in our community

a) Yes
b) No

Please explain why;

APPENDIX D

SUICIDE PREVENTION: PRE- SURVEY RESULTS

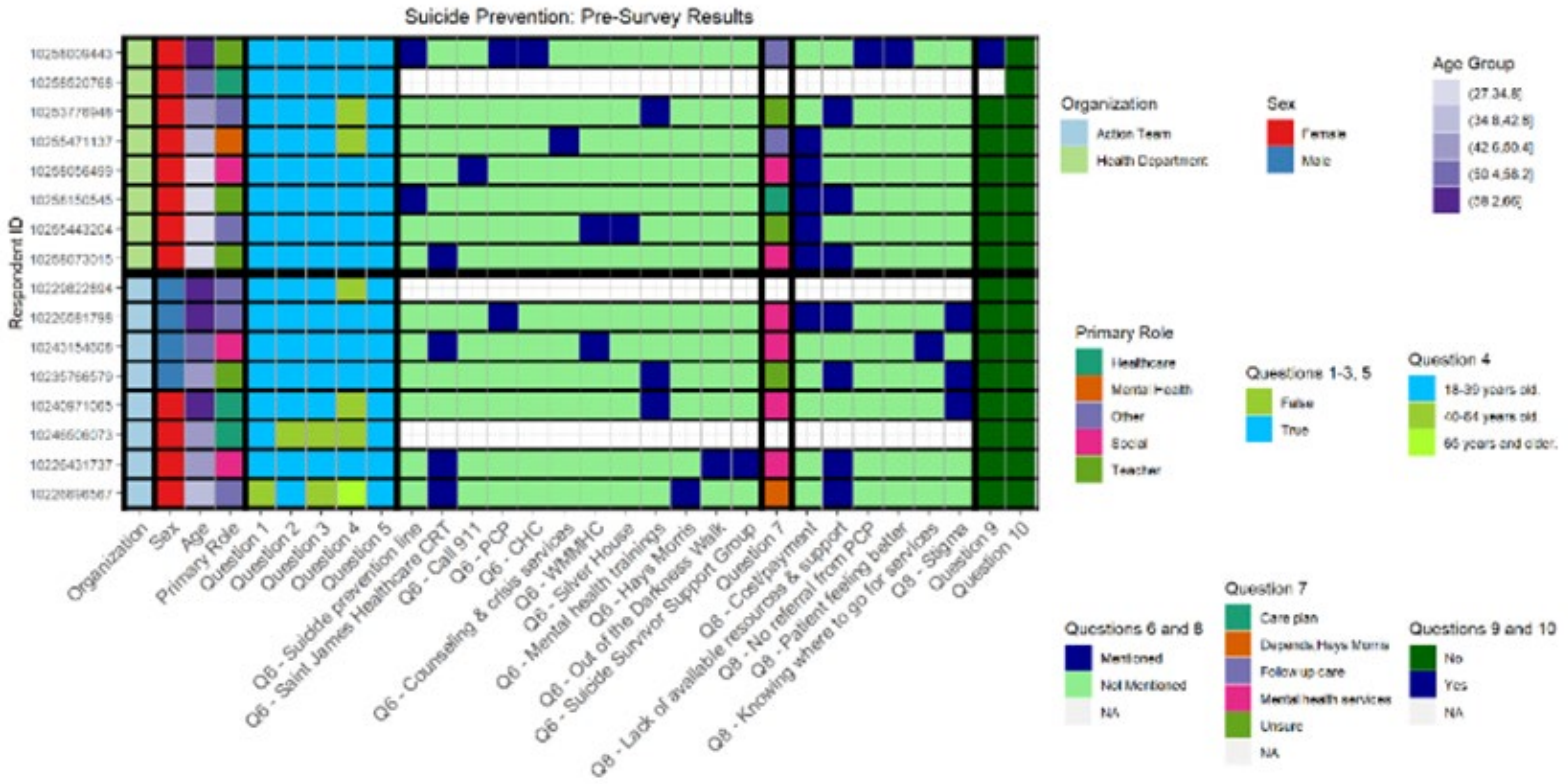


Figure 1: Tile plot of responses across all individuals in the pre-intervention survey. Columns represent questions in the survey and each row corresponds to the responses for an individual. Different colors correspond to the different answers that were observed by at least one individual (not all possible answers on the survey). A thick horizontal line separates responses from the two organizations. Thick vertical lines separate groups of survey questions, with the groups defined from left to right as follows: organization, demographics, questions related to suicide rates with a correct answer, question 6 answers, question 7 answers, question 8 answers, and intervention questions.

APPENDIX E

SUICIDE PREVENTION: POST-SURVEY RESULTS

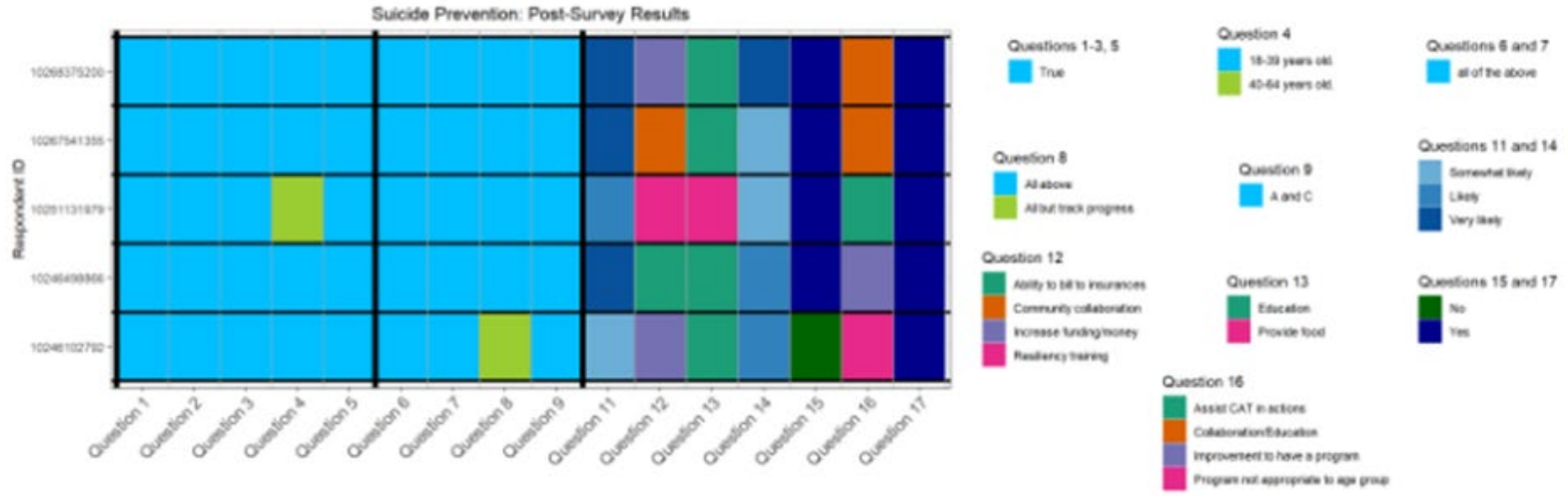


Figure 2: Tile plot of the responses for the five individuals in the post-intervention survey. Columns represent the displayed questions in the survey and each row corresponds to the responses for an individual. Different colors correspond to the different answers that were observed by at least one individual (not all possible answers on the survey). Thick vertical lines separate groups of survey questions, with the groups defined from left to right as follows: questions related to suicide rates with a correct answer, presentation content with a correct answer, and presentation content without a correct answer.